UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,485	11/20/2001	Mark E. Tuttle	MI40-337	8903

21567 7590 06/09/2005

WELLS ST. JOHN P.S.
601 W. FIRST AVENUE, SUITE 1300
SPOKANE, WA 99201

EXAMINER	
LEE, BENJAMIN C	

ART UNIT	PAPER NUMBER
2632	

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,485	TUTTLE, MARK E.	
	Examiner	Art Unit	
	Benjamin C. Lee	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *69,70 and 72-93* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *69,70 and 72-93* is/are rejected.

7)☒ Claim(s) *85* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/23/05,8/4/04,11/20/01*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Claims Status

1. Claims 69-70 and 72-93 are pending.

Claim Rejections - 35 USC § 103

2. Claims 69-70, 73-74, 83-84 and 86-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gunnarsson (US pat. #5,552,790) in view of Tuttle et al. (US pat. #5,448,110).

1) In considering claim 69:

a) Gunnarsson teaches a remote intelligent communication device comprising a ground plane (38 of Fig. 5b); and antenna (37 of Figs. 5a-5b) spaced apart from and interacting with the ground plane (capacitively coupled according to col. 8, lines 37-39), the antenna being SUBSTANTIALLY electrically insulated from the ground plane (Fig. 5b where 37 is separated from 38 by dielectric 39); an integrated circuit (electronic component 45 of Figs. 5a-5b shown as an IC chip form and transponder integrated circuitry according to col. 6, line 22 to col. 7, line 11, and especially col. 7, lines 7-11) coupled with the antenna and including a receiver (col. 8, line 49); and having a housing having planar outermost surfaces using a covering of communication signal transparent protection foils (55, 56 of Figs. 5b and 4b and col. 9, lines 1-2) ; and wherein the integrated circuit includes a modulator configured to communicate using backscatter communications (col. 6, lines 27-49 and col. 7, lines 12-17 whereby the response of the transponder via "reradiation" of the reader/interrogator signal by modulating the transponder circuit impedance are characteristic of and indicative of backscatter communication);

While:

b) Tuttle et al. teaches in a remote intelligent communication device for various applications including object/people location, tracking and inventory control, etc. (col. 1, lines 16-65 and col. 2, lines 20-24) the use of an encapsulant (30, 42 according to Fig. 4D and the laminating/sealing process involved on col. 8, lines 51-55 and according to the Abstract; wherein such sealing constitutes an encapsulation and the layers 30, 32 constitute encapsulant according to col. 2, lines 35-36) configured to form a housing about the antenna and the integrated circuit, the encapsulant comprising an outermost planar surface of the housing (Fig. 4D).

In view of the teachings by Gunnarsson and Tuttle et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize a known housing encapsulation of Tuttle et al. in place of the foil-covering for providing an encapsulated protective housing for the transponder device of Gunnarsson to better guard it against the environmental elements as well as minor shock or other physical damage while maintaining the signal transparency characteristics intended by choosing any encapsulant that does not significantly block signals.

2) In considering claim 70, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 69, including:

--the claimed said encapsulant encapsulates and contacts the antenna (Figs. 2, 3, 5a, 8, 9 & 11 of Tuttle et al.)

3) In considering claim 73, Gunnarsson and Tuttle et a.l made obvious all of the claimed subject matter as in claim 69, including:

--the claimed said encapsulant encapsulates and contacts the integrated circuit (Fig. 4D of Tuttle et al., whereby 58 is also interpreted as part of the encapsulant, in light of the proximity of the integrated circuit to the transponder exterior in Figs. 4a-4b of Gunnarsson for encapsulation).

4) In considering claim 74, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 69, including:

--the claimed RFID communication circuitry (Figs. 1A-1B of Tuttle et al.; col. 1, lines 15-27 and col. 6, lines 47-49 of Gunnarsson).

5) In considering claims 83, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in the consideration of claim 70, plus the formation steps of Tuttle et al. throughout the disclosure including the printing of antenna (e.g. see Abstract) as a known way of providing the antenna in an efficient and economical manner (e.g. less material and less time requirements as compared to other known techniques such as etching.)

6) In considering claim 84, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 83, including:

--the claimed providing a dielectric layer intermediate the ground plane and antenna (Fig. 5b of Gunnarsson.)

7) In considering claim 86, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as claim 84, wherein:

-- the claimed forming the housing to contact a portion of the dielectric layer is met by the sealing encapsulation of the whole transponder package of Tuttle et al. and Gunnarsson, whereby side edges of the housing encapsulation contacts the dielectric layer.

8) In considering claim 87, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 83, plus the consideration of claim 71 regarding the backscatter communication modulator of the integrated circuit.

9) In considering claims 88, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in the consideration of claim 74, plus the formation steps of Tuttle et al. throughout the disclosure, whereby:

a) the ground plane constitutes the claimed conductive layer over which the antenna and integrated circuit are formed according to Figs. 5a-5b of Gunnarsson;

b) total encapsulation over the whole device housing inherently results in a substantially void-free mass as illustrated by Figs. 4D to 9 of Tuttle et al.

10) In considering claim 89, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 88, whereby:

Since the "ground plane" is for providing electrical ground, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to ground such ground plane conductive layer in a device such as taught by Gunnarsson and Tuttle et al. before encapsulation to ensure that undue charge has not been accumulated on the ground plane as a result of static charge accumulation during manufacturing processes or handling so that it can truly work as a "ground" plane as intended.

3. Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gunnarsson in view of Tuttle et al. and Alicot et al. (US pat. #5,859,587).

1) In considering claim 92, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 83, wherein:

Gunnarsson did not specify the manufacturing method for the antenna, while Tuttle et al. teaches using printing to implement the antenna (Abstract). However, conductive-ink printing to form a transponder antennas has been known in the art. For example, Alicot et al. teaches the known use of conductive-ink-printing to implement an antenna for a transponder (col. 2, lines 7-9). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use a known conductive ink-printing technique such as taught by Alicot et al. to implement the printed antenna of Gunnarsson and Tuttle et al. in order to provide a thin and consistent antenna trace for minimized size of the antenna and as a result the whole transponder housing for convenient carriage by monitored users/objects.

4. Claims 90 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gunnarsson in view of Tuttle et al., Brady et al. (US pat. #5,826,328) and Baird (US pat. #5,252,783).

1) In considering claims 90 and 93, Gunnarsson and Tuttle et al. made obvious all of the claimed subject matter as in claim 88, except:

the claimed flowing a flowable encapsulant over the entirety of the antenna and integrated circuit and curing the encapsulation.

While Tuttle et al. discloses curing the encapsulation (Fig. 4D) over the entirety of the antenna and integrated circuit for encapsulation of the entire transponder, but not using a flowing type encapsulant, such use of flowable encapsulant for encapsulation has been known in the art. For example, Brady et al. teaches such known encapsulation (col. 5, line 64 to col. 6, line 10) of liquid encapsulant injection molding while Baird clarifies that such injection molding can involves curing of the encapsulant to solidify it (col. 2, lines 35-51).

5. In view of the above teachings, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a flowable encapsulating procedure such as taught by Brady et al. can be used as an alternative to provide the protective outer housing of the device of Gunnarsson and Tuttle et al., and further including the curing as taught by Baird that comes with such injection molding encapsulation to ensure strength, stableness and longevity of the encapsulant.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 79 and 88-90 are rejected under the judicially created doctrine of double patenting over claims 40 and 46-48, respectively, of U. S. Patent No. 6,339,385 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: Current claims 79 and 88-90 are broader versions of patented claims 40 and 46-48, respectively and every limitation are found in said patented claims.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

8. Claims 69-70, 72-78, 80-87 and 91-93 are rejected under the judicially created doctrine of double patenting over claims 5-6, 12-13, 15-16, 25, 29, 33, 41-44 and 46-48 of U. S. Patent No. 6,339,385 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows, whereby the motivation for combination comes from the fact that all the patented claims are directed to the same general invention and the claims belong in the same patent, suggesting the different claims are combinable.

1) Claims 69-70 and 73 are met by patented claims 5 and 29, whereby the parallel arrangement of the planar antenna and planar ground plane provides the claimed result of an outer most planar surface of the housing.

2) Claim 72 is met by patented claim 6.

3) Claim 74 is met by the combination of patented claims 5 and 15.

4) Claim 75 is met by the combination of patented claims 5 and 12.

5) Claim 76 is met by the combination of patented claims 5 and 12-13.

6) Claim 77 is met by the combination of patented claims 5, 12 and 15.

7) Claim 78 is met by the combination of patented claims 5, 12 and 16.

8) Claims 80-81 are met by the combination of patented claims 41-42, respectively.

9) Claim 82 is met by the combination of patented claims 5 and 40.

10) Claims 83-84 and 87 are met by the combination of patented claims 43 and 4.

11) Claim 85 is met by patented claim 44.

12) Claim 86 is met by patented claim 45.

13) Claim 91 is met by patented claim 40, and furthermore that it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the antenna using trace conductive ink as a known way of producing such antenna.

14) Claim 92 is met by patented claims 43 and 4, and furthermore that it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the antenna using trace conductive ink as a known way of producing such antenna.

15) Claim 93 is met by patented claim 48, and furthermore that it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to encapsulate the entirety of the antenna when implementing the steps of "flowing a flowable encapsulant over the antenna and integrated circuit; and curing the encapsulant."

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Response to Arguments

9. Applicant's arguments filed 12/27/04 have been fully considered but they are not persuasive.

1) Backscatter communication in RFID transponder communication is the communication from the transponder by reradiation, or absorption/reflection of the incoming signal from the reader/interrogation by switching/modulating the impedance of the transponder antenna or associated circuitry, and such characteristics are clearly disclosed by Gunnarsson (additional citation in the patent has been added in the above rejection) so that "backscatter" communication is met by Gunnarsson.

2) Prior art rejection of amended claim 72 has been withdrawn, while Obvious Double Patenting rejection has been newly made.

3) Regarding claim 83, teaching of "printing the antenna.." comes from Tuttle, for the same reasons why such method of printing is used to produce antennas in the art. The above rejection clarifies the motivation for choosing printing versus other known techniques of antenna formation.

4) Regarding claim 88, Tuttle shows/suggests "void-free" encapsulation as further clarified in the above rejection.

5) The word "ground" in the term "ground plane" refers to electrical ground, and the grounding of the ground plane to ensure proper functioning of electrical ground is well known in the art, as both are illustrated by sample prior art cited in the section below.

6) Initialled copies of PTO-1449s submitted 8/3/04, 11/20/01 (only 08/926,595 corresponding to US pat. 6339385 qualifies as prior art under double patenting consideration; 08/914,305 is an abandoned application not qualified as prior art; 6133836 and 09/660,537 have

effective filing dates that are later than the current application of 8/20/97 and therefore do not qualify as prior art) and 8/4/04 have been provided with this Office action.

7) Double Patenting rejection has been applied to all pending claims above.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: the following are pertinent prior art showing the well known meaning of "ground plane" and the well known grounding of the ground plane.

1) US 4884208 (col. 4, lines 39-46).

2) 4509053 (col. 1, lines 23-27).

3) 4396917 (col. 5, lines 1-5).

4) 4173019 (col. 12, lines 41-47).

5) 5414221 (col. 14, lines 57-60).

6) 5144261 (col. 4, lines 46-48).

7) 5115223 (col. 6, lines 48-56).

8) 5112253 (col. 4, lines 32-41).

9) 4866453 (col. 3, lines 60-65).

10) 3573705 (col. 4, lines 1-3).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963. The examiner can normally be reached on Mon -Fri 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin C. Lee
Primary Examiner
Art Unit 2632

B.L.